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Madison, Wis.[*] Notice: The term of this patent shall not extend
beyond the expiration date of Pat. No.
5,643,576.[21] Appl. No.: **487,659**[22] Filed: **Jun. 7, 1995****Related U.S. Application Data**

[63] Continuation of Ser. No. 146,360, Nov. 3, 1993, abandoned.

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424/443; 424/444; 424/484; 424/494; 514/2;
514/21; 514/557; 514/561[58] Field of Search **424/426, 422,**
424/423, 443, 444, 484, 499; 514/2, 21,
557, 561[56] **References Cited****U.S. PATENT DOCUMENTS**

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ABSTRACT

A fibrogen-free substrate having as a hemostatic agent on a surface thereof a mixture of a clot-promoting amount of thrombin and an amount of epsilon aminocaproic acid (EACA) effective to accelerate the rate of blood clotting induced by the thrombin is useful as a hemostatic patch which is safe, inexpensive and which rapidly controls bleeding from a wound. A patch which rapidly stanches the flow of blood from a lesion on a parenchymal organ by pressing it against the surface of the organ for 3-5 minutes, is produced by applying thrombin, EACA and CaCl₂ to a rigid sheet of biodegradable foam, such as an absorbable gelatin sponge, and compressing the dry sheet to produce a flexible sheet which conforms to the contour of the organ without the necessity of pre-moistening. The EACA raises the pH of the acidic fluid associated with the wound and thereby accelerates the activation of the thrombin.

17 Claims, 4 Drawing Sheets